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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/024,629

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Albert Futernik

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EXAMINER

PATEL, JAY P

ART UNIT

PAPER NUMBER

2666

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/024,629

Applicant(s)

FUTERNIK, ALBERT

Examiner

Jay P. Patel

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 9-12, 15-17 and 21-25 is/are rejected.
- 7) ☒ Claim(s) 6-8, 13, 14, 18-20 and 26-28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 9-10, 15-16 and 21-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Daruwalla et al. (US Patent 6839829 B1).

3. In regards to claims 1 and 21, Daruwalla discloses in figures 2A-2E, various cable network topologies with Cable modem terminations system (CMTS) to provide provide link protection for each other. For example, figure 2A provides two CMTSs (207 and 209) that assume the function of the other CMTS in it fails (see figure 2A and column 5, lines 29-43). The cable network topology and the CMTSs anticipate, a communications network wherein communication links become intermittently disabled and communication unit to transmit and receive messages.

In further regards to claims 1 and 21, Daruwalla also discloses two cable modems (203 and 205) that communicate with the CMTSs via respective downstream channels (56 and 57 respectively). Each connection is made through a two-way hybrid fiber-coaxial network (HFC 211). Furthermore, communications between the cable modems and external sources are made via a connection 200 (see column 5, lines 38-

43). The cable modems and their ability to communicate with the CMTS and external sources anticipate, a communication device to transmit an outgoing message to at least one other communication unit within said network and to receive an incoming message from at least one other communication unit within said network.

In further regards to claims 1 and 21, figure 2A illustrates that CMTS 207 has failed; therefore, modem 203 cannot communicate via CMTS 207 and communications is carried through CMTS 209. Now communications to and from cable modem 203 take a different path through HFC network 211 (column 6 lines 1-5). The HFC anticipates a routing device to route outgoing messages within said network to corresponding destination sites. The ability of the HFC to provide a separate link to a modem in case of a failure anticipates a protocol module to facilitate routing of messages within said network in accordance with a routing protocol.

In further regards to claims 1 and 21, the cable modem 203 shifts from downstream channel 56 to channel 57 of CMTS 209 and in turn shifts to a different downstream frequency (see column 5, lines 6-9). The HFC 211 shifts the downstream channel of the cable modem; this function of the HFC 211 and the cable modem anticipates a network module to determine routes within said network for transmission of said outgoing messages to said corresponding destination sites and wherein the routing protocol facilitates recomputation of said routes within said network by said network module in response to occurrence of a particular condition (i.e. failure of CMTS 207).

In further regards to claims 1 and 21, CMTS 207, provides a protection path for CMTS 209 and vice versa. CMTS 209 takes over responsibility for servicing cable modem 203 and if CMTS 209 fails, CMTS 207 will take over responsibility for cable modem 205 and its peers (see column 5, lines 56-62). This mutual protection scheme anticipates a route generation module to establish said particular condition within said network prior to occurrence of disablement of a communication link to enable said network module to recompute said routes based on said communication link disablement and in response to said routing protocol.

In regards to claims 2, 3, 22 and 23 Daruwalla discloses in figure 9, a wireless system used with regards to the protection scheme disclosed for cable modems. The wireless system includes satellite base station 902 and orbital satellites 906 (see figure 9 and column 25 lines 1-2). The satellite base station and the orbital satellite anticipate the communication network being a satellite network and the communication unit being a ground station or a satellite.

4. In regards to claim 9, Daruwalla discloses in figures 2A-2E, various cable network topologies with Cable modem terminations system (CMTS) to provide link protection for each other. For example, figure 2A provides two CMTSs (207 and 209) that assume the function of the other CMTS in it fails (see figure 2A and column 5, lines 29-43). The cable network topology and the CMTSs anticipate a communication network comprising: a plurality of communication units for transferring information, wherein communication links between said communication units become intermittently disabled.

In further regards to claim 9, figure 2A illustrates that CMTS 207 has failed; therefore, modem 203 cannot communicate via CMTS 207 and communications is carried through CMTS 209. Now communications to and from cable modem 203 take a different path through HFC network 211 (column 6 lines 1-5). The HFC anticipates a routing device to route outgoing messages within said network to corresponding destination sites. The ability of the HFC to provide a separate link to a modem in case of a failure anticipates a protocol module to facilitate routing of messages within said network in accordance with a routing protocol.

In further regards to claim 9, the cable modem 203 shifts from downstream channel 56 to channel 57 of CMTS 209 and in turn shifts to a different downstream frequency (see column 5, lines 6-9). The HFC 211 shifts the downstream channel of the cable modem; this function of the HFC 211 and the cable modem anticipates a network module to determine routes within said network for transmission of said outgoing messages to said corresponding destination sites and wherein the routing protocol facilitates recomputation of said routes within said network by said network module in response to occurrence of a particular condition (i.e. failure of CMTS 207).

In further regards to claim 9, CMTS 207, provides a protection path for CMTS 209 and vice versa. CMTS 209 takes over responsibility for servicing cable modem 203 and if CMTS 209 fails, CMTS 207 will take over responsibility for cable modem 205 and its peers (see column 5, lines 56-62). This mutual protection scheme anticipates a route generation module to establish said particular condition within said network prior to occurrence of disablement of a communication link to enable said network module to

recompute said routes based on said communication link disablement and in response to said routing protocol.

In regards to claim 10, Daruwalla discloses in figure 9, a wireless system used with regards to the protection scheme disclosed for cable modems. The wireless system includes satellite base station 902 and orbital satellites 906 (see figure 9 and column 25 lines 1-2). The satellite base station and the orbital satellite anticipate the communication units being satellites and at least one of said communication units being a ground station.

5. In regards to claim 15, Daruwalla discloses in figures 2A-2E, various cable network topologies with Cable modem terminations system (CMTS) to provide link protection for each other. For example, figure 2A provides two CMTSs (207 and 209) that assume the function of the other CMTS in it fails (see figure 2A and column 5, lines 29-43). The cable network topology and the CMTSs anticipate a communication network including a plurality of communication units wherein communications links between communication units become intermittently disabled.

In further regards to claim 15, the cable modem 203 shifts from downstream channel 56 to channel 57 of CMTS 209 and in turn shifts to a different downstream frequency (see column 5, lines 6-9). The HFC 211 shifts the downstream channel of the cable modem; this function of the HFC 211 and the cable modem anticipates routing outgoing messages within said network to corresponding destination sites in accordance with a routing protocol, wherein the routing protocol facilitates

recomputation of said routes within said network by said network module in response to occurrence of a particular condition (i.e. failure of CMTS 207).

In further regards to claim 15, CMTS 207, provides a protection path for CMTS 209 and vice versa. CMTS 209 takes over responsibility for servicing cable modem 203 and if CMTS 209 fails, CMTS 207 will take over responsibility for cable modem 205 and its peers (see column 5, lines 56-62). This mutual protection scheme anticipates establishing said particular condition within said network prior to occurrence of disablement of a communication link to enable recomputation of said routes based on said communication link disablement and in response to said routing protocol.

In regards to claim 16, Daruwalla discloses in figure 9, a wireless system used with regards to the protection scheme disclosed for cable modems. The wireless system includes satellite base station 902 and orbital satellites 906 (see figure 9 and column 25 lines 1-2). The satellite base station and the orbital satellite anticipate the communication units being satellites and at least one of said communication units being a ground station.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4, 11, 17 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daruwalla et al. (US Patent 6839829 B1) as applied to claims 1, 9, 15 and 21 above, and further in view of Grover et al. (US Patent 6856592.).

8. In regards to claims 4, 11, 17 and 24, Daruwalla teaches all the limitations of claims 1, 9, 15 and 21 as stated above. Daruwalla fails to teach the routing protocol being the OSPF routing protocol; Grover teaches the above-mentioned limitation. Grover teaches a route restoration method where the working capacity of each span is determined. The working capacity is dependent on the working path routing, which can be generated using OSPF routing (see figure 2 step 110 and column 5, lines 4-9). Therefore, it would have been obvious to one skilled in the art to implement the routing protocol disclosed by Daruwalla using OSPF routing. The proper motivation comes from Grover where it is stated that "a method of providing restoration routes that efficiently exploit spare network capacity and keeps the restoration routes as short as possible is needed" (see column 1, lines 34-37).

9. Claims 5, 12 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daruwalla et al. (US Patent 6839829 B1) as applied to claims 1, 9 and 21 above, and further in view of Green (US Patent 5517494).

10. In regards to claims 5, 12 and 25, Daruwalla teaches all the limitations of claims 1, 9 and 21 as stated above. Daruwalla fails to teach periodically transmitting neighbor packets in order to verify communication links with other communication units, and wherein said particular condition is the absence of transmission and reception of said neighbor packets within a corresponding interval. Green teaches the above-mentioned

limitation. Green teaches that each node, periodically keeps track of the state of its adjacent nodes by sending out hello packets periodically on each network port and requiring each node to notice if a hello packet is not received from an adjacent node in a certain time interval (see figure 4A and column 5, lines 64-67 and column 6, line 1). Therefore, it would have been obvious to one skilled in the art to combine the protocol module disclosed by Daruwalla with the hello message transmitting method disclosed by Green. The proper motivation comes from Green where it is stated that "creating multicast addresses that are used to find routes in order to add or remove branches from the distribution tree dynamically provides for more efficient use of network and router resources" (column 4, lines 42-49).

Allowable Subject Matter

11. Claims 6-8, 13-14, 18-20 and 26-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay P. Patel whose telephone number is (571) 272-3086. The examiner can normally be reached on M-F 9:00 am - 5:00 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jpp 11/6/05
Jay P. Patel
Assistant Examiner
Art Unit 2666



DANG TON
PRIMARY EXAMINER